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Assignment 2: Creating and Using Bar Graphs and Pie Charts

* **Please put your name in the upper left corner of this document.**
* **Download the assignment and save the assignment with your name and R2 on your computer (I would download and save on desktop for easy access).**
* **Make sure you copy and paste what is asked.**
* **Make sure you answer a question in a complete sentence. So, if you were asked, what is the median, you would answer, “The median is…”**
* **Please follow the directions and answer all questions in the space provided in this assignment.**
* **Help is embedded in the assignment.**
* **Once complete save the file.**
* **Upload file on Blackboard.**

**Upload Assignment\_2\_DATA\_Set, this is Class DATA from Summer of 2018 (Make sure you do not alter the data files name!):**

**Optimist**

1 I am always an optimist

2 Most of the time I am optimistic

3. I can sometimes be an optimistic

4. I am rarely optimistic

5. I am never an optimistic

**Math**

1. I really like math.

2. I somewhat like math.

3. I could take math or leave it.

4. I really don't like math.

5. I'd rather have a root canal

Using Assignment\_2\_DATA\_SET, please do the following and answer the following questions.

1. Make a pie chart to display the distribution for the level of optimism for the class. Make sure the graph has proper titles.

#R-Code:

#This code makes R recognize the variable Optimist as Qualitative/Categorical

Assignment\_2\_DATA\_Set$Optimist=as.factor(Assignment\_2\_DATA\_Set$Optimist)

#This is a table for Optimist

t\_optimist=table(Assignment\_2\_DATA\_Set$Optimist)

#First, I must take data and create percents

Percent\_Optimist=100\* t\_optimist /sum(t\_optimist)

Percent\_Optimist

#Creating a Pie Chart

format\_with\_percent=format(Percent\_Optimist,digits=3)

lbl=paste(c("Most of the time","Sometimes","Rarely"), format\_with\_percent,"%",sep=" ")

pie(Percent\_Optimist,label=lbl,main="Distribution of Optimism in Class of 23 Students")

* 1. What percentage of students felt optimistic Some of the time (sometimes)?

**26.1% of students felt optimistic sometimes.**

* 1. How Many Students felt optimistic most of the time?

**14 students felt optimistic most of the time.**

* 1. What percentage of students rarely felt optimistic or sometimes optimistic?

**39.1% of students either rarely felt optimistic or sometimes optimistic.**

1. Make a pie chart and a relative frequency bar chart to display the distribution for the level of affinity toward mathematics for the class. Make sure the graph has proper titles.

#R-Code:

#This code makes R recognize the variable Math Attitude as Qualitative/Categorical

Assignment\_2\_DATA\_Set$Math=as.factor(Assignment\_2\_DATA\_Set$

Math)

#This is a table for Optimist

t\_Math=table(Assignment\_2\_DATA\_Set$Math)

#First, I must take data and create percents

Percent\_Math=100\* t\_Math /sum(t\_Math)

Percent\_Math

#Creating a Pie Chart

format\_Math\_with\_percent=format(Percent\_Math,digits=2)

lbl\_Math=paste(c("Really Like","Somewhat like","Take it or leave it","Do not like","Rather have a root canal"), format\_Math\_with\_percent,"%",sep=" ")

pie(Percent\_Math,label=lbl\_Math,main="Distribution of Affinity Towards Math in Class of 23 Students")

#Creating a Relative Frequency Bar Graph

barplot(Percent\_Math,main = "Distribution of Affinity Towards Math for Class of 23",xlab = "1=Really like,2=Somewhat like,3=Take or Leave, 4=Don't Like, 5=Rather have a root canal",ylab = "Percent of Students")

* 1. What percent of students in the class rather have a root canal than do math? (Remember, answer in a complete sentence.)

**4.3% of students in the class would rather have a root canal than do math.**

* 1. How many students could take math or leave it or somewhat like math? (Remember, answer in a complete sentence.)

**12 students either somewhat like math or could take it or leave it.**